

Tennessee Health Information Exchange
Strategic Plan
Version 2.0

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Background

The Tennessee Health Information Exchange (“HIE”) Strategic Plan sets forth a framework for the State’s efforts to promote the secure, statewide exchange of health information in order to drive improvements in healthcare outcomes. Fostering coordinated, statewide HIE will:

- Give clinicians vital, secure information at the point of care;
- Empower patients to take charge of their health decisions by having their own health information available; and
- Build a foundation to improve both individual and population health.

The State of Tennessee developed the HIE Strategic Plan with extensive input from a broad range of public and private stakeholders, and is committed to using a practical, efficient approach to promote widespread and sustainable adoption of HIE and health information technology (“health IT”); ensuring ongoing, broad stakeholder participation; and protecting the privacy and security of individual health information.

Overview of Strategic Plan

The HIE Strategic Plan:

- Describes Tennessee’s current HIE and health IT environment;
- Establishes Tennessee’s overall strategy for achieving interoperable HIE capability throughout the state and across state boundaries, and breaks this strategy down into five domains identified by the federal Office of the National Coordinator for Health Information Technology (“ONC”):
 - Governance,
 - Technical Infrastructure,
 - Business and Technical Operations,
 - Legal/Policy, and
 - Financing;
- Describes how Tennessee’s HIE Strategic Plan coordinates with state and federal government agencies and funding sources, and how the efforts will be evaluated to ensure accountability;
- Establishes the strategic framework for an Operational Plan for Tennessee to implement concrete programs and policy tools to achieve the objectives of the Strategic Plan; and

- Ensures that statewide HIE is developed and implemented with the objective of improving health outcomes for those who receive medical care in Tennessee with the utmost respect for their privacy and the security of their health information.

Terms used in this Strategic Plan that are not otherwise defined have the meanings set forth in the consensus definitions report of the ONC.¹ For ease of reference, a glossary of frequently used terms is found in Appendix A.

Collaboration and Coordination

Collaboration in, and coordination of, Tennessee's health IT and HIE efforts are essential to utilize limited resources in the most effective and efficient manner possible. The three key partners leading this effort are the State of Tennessee, Health Information Partnership for Tennessee, Inc. ("HIP TN"), and the Tennessee Regional Extension Center ("tnREC"):

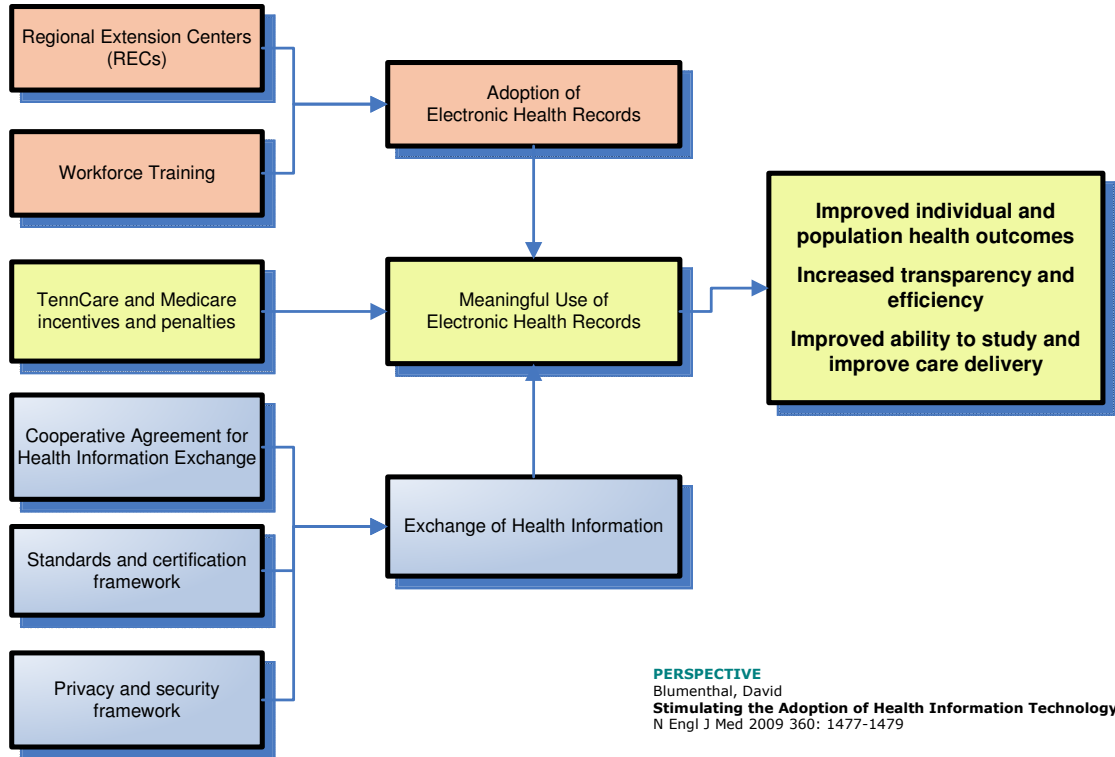
- The State of Tennessee's Health IT Coordinator provides leadership in coordinating the statewide efforts. The Office of eHealth Initiatives and the Bureau of TennCare initially will focus on the development of HIE services that can assist providers and hospitals in meeting the criteria for meaningful use incentive payments.
- The not-for-profit HIP TN focuses on services to enable HIE, including establishing the technical, legal, and business rules that will govern HIE in Tennessee. HIP TN was created in July 2009 by Tennessee stakeholders in consultation with state government.
- The tnREC supports the adoption and meaningful use of certified EHR technology for providers and hospitals in Tennessee. The tnREC is managed by QSource, Tennessee's Medicare Quality Improvement Organization.

The HIE Strategic Plan describes the structures and interrelationships between these partners in more detail. The following figure highlights each stakeholder's contribution to the overall eHealth effort.

¹ National Alliance for Health Information Technology. "Defining Key Health Information Technology Terms: Final Report." April 28, 2008. http://healthit.hhs.gov/defining_key_hit_terms, accessed October 2, 2009.

Figure 1: Summary of Coordinated Division of Work within Tennessee

Framework for Meaningful Use of Electronic Health Records (EHRs), Modified for TN



Legend	
Regional Extension Center	
State	
HIPTN	

1. Introduction

The State of Tennessee HIE Strategic Plan serves as an important foundation for the secure, interoperable exchange of health information that is patient-centered and sustainable. The HIE Strategic Plan incorporates extensive input from a broad range of public and private stakeholders and is responsive to ONC's State HIE Cooperative Agreement.²

1.1 Mission Statement

The State of Tennessee HIE Strategic Plan is guided by the following mission:

“Drive improvements in patient healthcare outcomes through a coordinated statewide HIE effort that enables vital, secure, decision-ready information to be available to clinicians at the point of care, empowers patients by making their own critical health information available to them, and builds a foundation to improve both individual and population health.”

1.2 Priorities

To advance statewide HIE, stakeholders across Tennessee are committed to the following broad priority areas:

- Promoting widespread adoption of HIE and health IT;
- Enabling the delivery of specific services that will increase the quality and efficiency of healthcare, including ePrescribing, care coordination, quality reporting and other HIE services;
- Fostering advanced clinical care applications that improve the health of chronically ill patients;
- Using a practical, efficient approach to enable providers and hospitals to satisfy the criteria established by the Centers for Medicare & Medicaid Services (“CMS”) for demonstrating meaningful use of health IT, so that they may qualify for incentive payments;
- Enabling improvements in population and public health, including accurate and timely access to registries, public health reporting, and emergency preparedness;

² Details on ONC's State HIE Cooperative Agreement Funding Opportunity Announcement and program requirements are available online at http://healthit.hhs.gov/portal/server.pt?open=512&objID=1488&parentname=CommunityPage&parentid=58&mode=2&in_hi_userid=11113&cached=true

- Ensuring ongoing and broad stakeholder participation in the development of and continuous improvement in the technical and policy infrastructure supporting HIE;
- Establishing the necessary protections to ensure the privacy and security of individual health information; and
- Advancing HIE services in a sustainable manner that contributes to the overall economic efficiency of the healthcare delivery system.

1.3 Tennessee's Development of the Strategic Plan for Statewide HIE

1.3.1 Assessing Tennessee's Opportunities to Align eHealth Investments

In 2009, the State commissioned a comprehensive study of options for further development of HIE in Tennessee, including an assessment of the HIE environment, a canvass of the views of stakeholders across the state, an evaluation of experiences in other states, and an articulation of policy options.³

The objective of the study was to generate options and recommendations for a governance structure and a process to rationalize and realize the promise of HIE for improving health outcomes for those who receive their medical care in Tennessee. The study involved interviews and open meetings with more than 30 stakeholders and thought leaders with subject matter expertise who were committed to thoughtful deliberation about the legal, business and technical considerations affecting HIE in the state. Stakeholders involved in this comprehensive planning process included representatives of the following groups:

- State government,
- Consumers,
- Health Information Organizations ("HIOs"),
- Employers,
- Large providers,
- Physician groups,
- Primary care clinics, and
- Managed care plans and health insurers.

³ Office of eHealth Initiatives. "State of Tennessee Advancing Statewide eHealth Efforts, Version 2.0." June 30, 2009. See http://www.tennesseeanytime.org/ehealth/documents/ReporttoAdvanceHealthinTennessee063009_000.pdf.

The study was completed in June, 2009 and provided the foundation for Tennessee's HIE Strategic and Operational Planning efforts.

1.3.2 Collaborative Development of October 2009 Strategic Plan

In July 2009, Tennessee stakeholders in consultation with state government created the not-for-profit HIP TN to establish technical, legal, and business rules that will govern HIE in Tennessee. As described more fully in the next chapter, this public-private partnership establishes a statewide collaborative process with broad stakeholder representation.

These stakeholders, with contributions from informal work groups established to help with the process, completed the first version of the Strategic Plan on October 13, 2009. The final drafts were vetted with the HIP TN Board and represented the first concrete deliverable developed by the partnership.

1.3.3 Collaborative Revision of Strategic Plan

In spring 2010, stakeholders continued to refine the October 2009 version of the Strategic Plan to incorporate the policy objectives and health IT and HIE requirements outlined in the federal government's Notice of Proposed Rule Making for Meaningful Use⁴ and the Interim Final Rule on Standards and Certification Criteria for Certified EHR Technology.⁵

An updated version of the HIE Strategic Plan will be submitted to the ONC together with the HIE Operational Plan in June, 2010.

1.3.4 Future Updates to Strategic Plan

Tennessee's HIE Strategic Plan will be updated periodically to reflect new developments and implementation progress. Each update of the HIE Strategic Plan will have a sequential version number.

1.4 HIE Strategy as Framework for Tennessee's Medicaid Health IT Plan

CMS, an agency of the U.S. Department of Health and Human Services, is providing guidance to and funding for states to foster the meaningful use of EHRs.

Tennessee's strategy for statewide HIE is guided by the principle that the State has a responsibility to ensure that those citizens who are dependent upon TennCare (Tennessee's Medicaid program), and their providers cannot be left behind. In fact, it is the State's intention to design and implement HIE so that people served through TennCare receive the greatest level of health improvements

⁴ 75 FR 1844. Available online at <http://edocket.access.gpo.gov/2010/E9-31217.htm>.

⁵ 75 FR 2014. Available online at <http://edocket.access.gpo.gov/2010/E9-31216.htm>.

and quality of care possible, whether their providers are eligible for incentive payments or not.

Active coordination between statewide eHealth efforts and TennCare efforts is essential to achieving Tennessee's eHealth vision. Furthermore, this collaboration leverages opportunities to advance HIE in a way that also ensures the investments are made wisely.

1.5 HIE Strategy Consistent with Tennessee's State Health Plan

Tennessee's strategy for statewide interoperable HIE is consistent with and supportive of the State's overall State Health Plan developed by the Division of Health Planning of the State Department of Finance and Administration.⁶

The following five principles comprise the basis of the State Health Plan, based on the Health Planning Division's enacting legislation⁷:

1. The purpose of the State Health Plan is to improve the health of Tennesseans;
2. Every citizen should have reasonable access to health care;
3. The State's healthcare resources should be developed to address the needs of Tennesseans while encouraging competitive markets, economic efficiencies, and the continued development of the State's healthcare industry;
4. Every citizen should have confidence that the quality of health care is continually monitored, and healthcare providers adhere to standards; and
5. The State should support the development, recruitment and retention of a sufficient and quality healthcare workforce.

With its emphasis on using HIE and health IT as tools to bring about necessary change in the health status of Tennesseans, and its priority areas emphasizing quality of care, the HIE Strategic Plan is aligned with legislative and executive branch priorities for action in Tennessee and also captures the fundamental aspirations of healthcare providers, payers, purchasers, policy leaders and consumers who are dedicated to the success of the initiative.

⁶ Available online at <http://www.tn.gov/finance/healthplanning/Documents/2009TennesseeStateHealthPlan.pdf>.

⁷ Available online at <http://tennessee.gov/finance/healthplanning/legislativeMandate.shtml>.

1.6 Need for Ongoing Strategy Development and Planning

Tennessee recognizes and embraces the need for rigorous ongoing evaluation of statewide HIE and health IT efforts. The pace of technological change alone will require constant attention to ensure that statewide HIE efforts cost-effectively incorporate new innovations. Just as significantly, the marketplace forces that ultimately must dictate how HIE can be made financially sustainable will be evolving rapidly over the next few years. Statewide HIE must be flexible and responsive to these and other forces, and ongoing evaluation and assessment is the essential foundation of the ability to adjust. Therefore the State will sponsor an evaluation and accountability program for HIE (see Section 9 for additional detail).

2. Governance of HIE in Tennessee

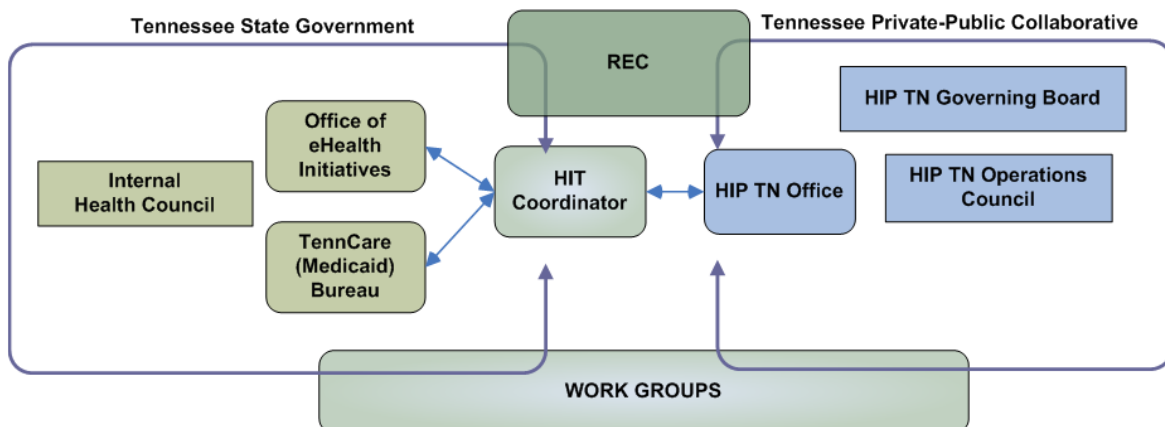
Tennessee recognizes the importance of a multidisciplinary, multi-stakeholder governance structure for statewide HIE that achieves broad-based stakeholder collaboration with transparency, buy-in and trust. Tennessee's approach to governance includes state government involvement alongside a strong private sector to achieve maximum coordination of effort and efficiency of resource deployment. The approach also maintains local and regional participation that fosters the trust that is essential to patient and provider endorsement and adoption of HIE.

2.1 Collaborative Governance Model

Tennessee has a history of stakeholder involvement in HIE strategic planning, most notably through the eHealth Advisory Council established in 2006 by Executive Order of the Governor.⁸ In 2009, the State commissioned and managed a comprehensive study of its HIE landscape and policy options.

Based on this study, the State's policy objectives, and the shared views of stakeholders from across the State, a governance framework and process was established to make the critical decisions that will guide investment of resources, the development of technology solutions, and the integration of HIE into both provider workflows and patients' management of their own health care. As illustrated in Figure 2 and described in greater detail below, Tennessee's public-private, collaborative framework is anchored by the State health IT Coordinator and HIP TN and is supported by multi-stakeholder input through an inclusive, collaborative work group infrastructure.

Figure 2: HIE Coordination within State of Tennessee



⁸ Available online at http://www.tennesseeanytime.org/ehealth/documents/ExecutiveOrder35_000.pdf.

2.2 Health Information Partnership for Tennessee

The HIP TN was incorporated in August 2009 as non-profit organization bringing together Tennessee's local, regional and state electronic health information initiatives and resources to form a collaborative partnership and framework. HIP TN seeks to improve access to health information so that healthcare providers and consumers can make better, more informed healthcare decisions.

This multi-disciplinary, multi-stakeholder governance body includes representatives of key stakeholder groups and aligns with emerging nationwide HIE governance. The current composition of the Board of Directors of HIP TN includes voting representatives for:

- Patients,
- HIOs,
- Health Insurers,
- Self Insured Employers,
- Hospital Industry,
- Physicians, and
- Pharmacies.

In addition, the Executive Director of HIP TN is an Ex-Officio member of the Board, and the following state officials are participants by contract:

- Commissioner (or designee) of Finance & Administration,
- Commissioner (or designee) of Department of Health,
- Health IT Coordinator,
- Tennessee Chief Information Officer, and
- Director, Bureau of TennCare.

HIP TN is responsible for selecting and managing the infrastructure and services to support statewide HIE. HIP TN will leverage existing assets and experiences from across the state. The roles and responsibilities of HIP TN include:

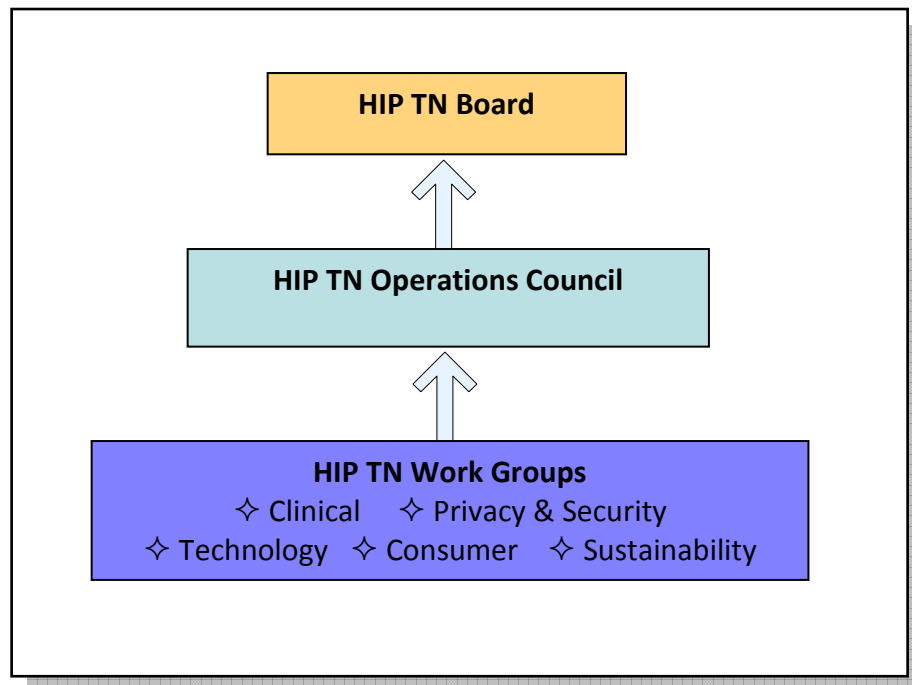
- ***Convene*** a broad array of stakeholders to agree to and support a set of shared services;
- ***Establish a technical design*** for shared services that leverages Tennessee's health information technology infrastructure (e.g., systems used in hospitals, providers, health plans, and health information organizations);
- ***Develop and ensure non-proprietary*** statewide technical guidance requiring all statewide HIE participants to comply with a common set of protocols and standards;
- ***Develop an operational plan*** that addresses the key components for statewide HIE;

- ***Develop and ensure policy*** requiring all statewide HIE participants to comply with a common set of privacy and security guidelines and policies;
- ***Determine the most efficient way to spend limited funding*** to support the statewide HIE;
- Develop an approach for ***sustainable financing*** that does not rely on federal, state, or private grant-based funds;
- Adhere to all federal ***accountability and transparency requirements***; and
- Maintain and operate a market place that ***fosters interoperability and innovation***.

2.2.1 HIP TN Governance

The Board of Directors, Operations Council, and work groups work in concert to develop and foster HIE in Tennessee. The figure below outlines HIP TN's three-tiered governance structure:

Figure 3: HIP TN Governance Structure



The HIP TN Board of Directors has the authority and responsibility for the overall policy direction of HIP TN. The Board has ultimate authority to determine the technical, business and legal policies that will constitute statewide policy guidance based on recommendations from the Operations Council and subject to such approval requirements as specified under the contract between the State and HIP TN.

The Operations Council is charged with the responsibility of overseeing the work groups, assigning tasks for consideration by the work groups and managing the statewide collaboration process. Each work group is comprised of subject matter experts as well as those with relevant operational experience in the respective field. In March 2010, HIP TN launched its first four work groups: Technology, Clinical, Privacy and Security, and Sustainability, with the remaining work group, Consumer Engagement, to be established at a later date.

HIP TN's work groups and cross-cutting activities are illustrated below.

HIP TN Work Groups

Work Groups	Technology	Clinical	Privacy & Security	Sustainability	Consumer Engagement
<i>Focus</i>	<i>How information is exchanged</i>	<i>How information is used</i>	<i>How information is protected</i>	<i>How the exchange is supported financially</i>	<i>How information is used by consumers</i>
Cross-Cutting Activities	Communication: How eHealth Initiative messages will be composed and delivered				
	Assessment: How eHealth Initiative progress and outcomes will be evaluated				
	Health IT Adoption: How adoption of health IT supports eHealth Initiative				

In order to take advantage of the broad pool of stakeholders collaborating in this area, HIP TN staff facilitates the work groups. This structure allows for maximum stakeholder involvement at different governance levels. It also allows subject matter experts and those with operations experience in the field to contribute to work group studies and Operations Council deliberations while allowing the board of directors to be informed by the work and recommendations of those bodies (but not be bound by them) and to take a broad policy view of proposed policies and other actions.

2.2.2 Coordination of Regional Organizational and Governance Structures

Based on the experience and observations of two of the nation's most advanced HIOs (MidSouth eHealth Alliance in Memphis and CareSpark in Northeast Tennessee/Southwest Virginia) Tennessee believes that regional HIOs have contributed tremendously to building community support for statewide HIE. When community leaders who know and work with each other through daily professional interaction come together to develop consensus around an issue, a foundation of trust emerges that is difficult to replicate in a governance structure that embraces a larger geographic area.

The Operations Council will have as one of its primary objectives to study and recommend to the board of HIP TN the definition of the governance role that HIOs can most advantageously play in Tennessee, taking into account that there are extensive areas outside the jurisdictions currently served by established HIOs.

2.2.3 Consumer Engagement

As Tennessee works to advance the exchange of electronic health information among healthcare providers, state agencies will collaborate with HIP TN's Consumer Engagement Work Group and its efforts to educate patients so they can make well-informed decisions about their own health and participation in HIE. The primary focus will be on the provider-patient relationship, informed by methods designed to obtain active consumer input into the process.

To ensure strong, ongoing consumer involvement in Tennessee's eHealth efforts, the HIP TN Consumer Engagement Work Group will:

- Develop consumer-oriented principles for HIE activities;
- Develop a detailed plan for consumer engagement in the deliberative efforts of HIP TN's work groups and decision-making processes;
- Create consumer education materials and consumer awareness initiatives that target consumers overall, while concentrating on medically underserved, minority, regional and vulnerable populations; and
- Develop strategies to ensure consumer access to and control of their health information.

HIP TN will collaborate with key patient and consumer stakeholder organizations such as AARP, Regional Health Improvement Collaboratives and County Health Councils. These stakeholders will include representatives from private sector and not-for-profit associations and individuals who have a vested interest in how HIE transforms the delivery of healthcare for patients and consumers. Roundtables and surveys will be developed to gather consumer input regarding barriers and preferred methods both for the use of personal electronic health records and for the use of publicly reported healthcare quality information. In addition, information about consumers who are and are not currently accessing information will be sought in order to understand how best to engage consumers.

2.2.4 Development of Statewide Policy Guidance

Statewide policy guidance comprises the technical, business and legal rules that participants in the statewide collaboration process agree to abide by in their exchange of health information.

Tennessee's strategy will be to utilize the statewide collaboration process convened by HIP TN to build consensus around policies that have wide support among stakeholders and can achieve policy objectives, such as:

- Fostering the development of standards-based HIE technology that is non-proprietary and adaptable;
- Developing privacy and security policies that engender trust on the part of patients, providers, payers and other data users and data services; and
- Assessing and advancing concepts for financial sustainability of HIE in Tennessee that may include legislative and/or regulatory proposals.

2.3 Role of the State Government

The state government recognizes its role in enabling meaningful use, fostering HIE, and ensuring statewide adoption of health IT and EHRs. State government roles and responsibilities include:

- ***Defining State Priorities*** to ensure that hospitals, clinics and other providers are able to demonstrate meaningful use in order to obtain the Medicaid and Medicare payment incentives;
- ***Participating in the HIP TN Board and Work Groups***
 - Monitor and guide progress of all HIE activities;
 - Ensure conformance with state priorities and principles;
 - Monitor the use of funds and administrative processes to support transparency and accountability; and
 - Contribute to up-front funding through State funds and ONC State HIE Cooperative Agreement funds;
- ***Developing Enterprise Services*** to be shared through Core Services supported by HIP TN;
- ***Coordinating with TennCare, Department of Health, and other State Agencies*** to avoid duplication of efforts and to ensure the integration and support of a unified approach to HIE;
- ***Engaging with VA, DoD and CMS*** to ensure that the State can meet the various federal requirements in order to engage in HIE with these federal delivery systems; and
- ***Contracting with an Evaluator*** to provide program evaluation and regular feedback to stakeholders including the State and ONC and ensure that HIP TN evaluation metrics are incorporated.

2.3.1 State Health IT Coordinator

The State Health IT Coordinator is a central element of the State's efforts to advance HIE and health IT efforts. The State Health IT Coordinator provides leadership in the harmonization and integration of HIE, health IT and related policies in coordination with the strategic direction of HIP TN.

The State Health IT Coordinator collaborates with the HIP TN Board and the HIP TN workgroups to ensure the best architecture and infrastructure is available for the network and assist in developing a strong sustainability model for the system, provide clinically valuable content and help to ensure patient privacy.

The State Health IT Coordinator also focuses on a number of additional aspects of the HIE including the state government's array of health programs – from those designed to improve public health, to those managing and delivering health services, purchasing health benefits, and regulating and licensing healthcare providers – in order to align its initiatives with HIP TN's mission of improving the health of people served in Tennessee.

The State Health IT Coordinator ensures compatibility and exchange with other State HIEs as well as interoperability with federal health programs.

Additionally, the State Health IT Coordinator will work with other State agencies to provide enhanced access to the network via the expansion of broadband programs. The Coordinator will also provide a strategic leadership role in identifying additional Value-Added services the network can offer its stakeholders in the future.

Finally, the State Health IT Coordinator also aligns the State's resources with the services provided by tnREC to promote Health IT and EHR adoption.

2.4 Coordination of Functions Through Procedures and Contracts

The coordination of governance functions of the state government, HIP TN and regional governance structures is essential to the effective accomplishment of the goals of this Strategic Plan and to ensure that funds are not expended in a duplicative or inefficient manner.

Tennessee's strategy to ensure the necessary coordination is to establish by contract a mandatory set of coordination procedures.

2.4.1 Contract Between State and HIP TN

In August 2009, the State awarded a grant to HIP TN that provides for the following:

- The terms on which grants will be made by the State to HIP TN, including the specific attainment of benchmarks and milestones that must be achieved as a condition of funding;
- The right for the Commissioners of Finance and Administration and the Department of Health, the Health IT Coordinator, the Director of Bureau of TennCare and the State's Chief Information Officer, or their designees, to attend, as non-voting participants, all Board, Operations Council and workgroup meetings of HIP TN in order to assure the greatest coordination possible and to acknowledge the interest of the State as the grant funding source and the steward of the public interest;
- The obligations of HIP TN with respect to convening a statewide collaborative process through which stakeholders will develop the technical, legal and business policies that will form the body of statewide policy guidance to which participants in statewide HIE will agree to adhere;
- The rights of the State to exercise specific approval authorization with respect to statewide policy guidance recommended for adoption by HIP TN;
- The obligation of HIP TN to coordinate policy matters with State policy through the State Health IT Coordinator; and
- The obligation of HIP TN to develop a contractual framework binding its participants to adhere to statewide policy guidance.

2.4.2 Contract between HIP TN and Its Participants

HIP TN will develop a contractual framework pursuant to which participants in the statewide collaboration process will undertake certain agreements. HIP TN will analyze the options and recommend the best contractual structure for this framework. It will need to be determined, for instance, whether participants that became or are already part of an HIO will bind themselves directly to HIP TN or will bind themselves through participation agreements with their HIO.

The contractual framework will at minimum obligate participants in the statewide collaboration process to adhere to statewide policy guidance that is adopted through the policies and procedures of HIP TN. HIP TN will recommend the options for additional elements that could be included in the contractual framework, such as:

- Authorization for HIP TN to negotiate contractual terms of statewide shared services;
- Obligation to make financial contributions to support the technical and policy framework administered by HIP TN;

- Agreement to submit to an accreditation process administered or designated by HIP TN; and
- Sanctions for failure to adhere to statewide policy guidance.

In addition, the Privacy and Security Work Group will be directed to study and present recommendations as to whether HIP TN should adopt a common Data Use and Reciprocal Services Agreement (“DURSA”) that binds all participants in the statewide collaboration process and can evolve over time as amendments are adopted by the HIP TN Board of Directors.

2.5 Assuring Accountability and Transparency of Governance Structure

A foundational element of the statewide collaboration process is ensuring the transparency of the process and the accountability of HIP TN to all stakeholders in Tennessee.

Meetings of the Board of Directors of HIP TN will be open to the public (except to the extent that the board determines that it should stand in executive session). Notice of meetings will be posted on the HIP TN website (<http://www.hiptn.org>). HIP TN has adopted a conflict of interest disclosure form completed by each board member and forwarded to counsel for HIP TN.

The HIP TN Board will be responsible for proposing standards for public participation in meetings of work groups and the Operations Council.

3. Environmental Scan and Gap Analysis

Tennessee has approximately 6.2 million residents, ninety percent of whom are covered by insurance, including 1.2 million who are enrolled in the State's Medicaid program, TennCare. There are over 6,700 primary care providers (defined broadly to include physicians, physician assistants, certain nurse practitioners and others), with the vast majority working in small practices with 10 or fewer providers. Tennessee has 158 separately licensed hospitals (17 of which are critical access hospitals), 132 Federally Qualified Health Clinic sites, and local health departments in all 95 counties.

3.1 Analysis of Tennessee's HIE History and Accomplishments

In Tennessee, there is a rich landscape of statewide assets and regional HIO efforts, including participation in national initiatives and collaboration with other states. The Tennessee state government has invested significant resources to develop a network infrastructure of broadband and shared services, while regional HIOs have grown organically from community-based efforts seeded with capital investments from federal, state, and local sources.

Tennessee eHealth Network

The State of Tennessee has devoted considerable energy and resources to the technical infrastructure for health IT. In 2007, the State negotiated a ten-year agreement with AT&T for the provision of its statewide production network, NetTN. NetTN provides a secure, statewide broadband infrastructure to hundreds of state agencies, local governments, and educational institutions in Tennessee.

Through the NetTN Contract, Tennessee has a secure and scalable private network that meets its internal needs and allows it to provide access to state information and services. It is already being used to provide telehealth services, and its broadband access can give providers better pricing than they can often get on the open market.

Regional Initiatives

In addition to several emerging efforts below the state level, Tennessee has two well-developed and operational regional initiatives, the MidSouth eHealth Alliance and CareSpark.

MidSouth eHealth Alliance has been actively exchanging clinical data since May 2006 and serves member facilities in three counties surrounding Memphis. The MidSouth eHealth Alliance has met significant milestones in point-of-care utilization of health data to improve patient care. Originating in Memphis emergency departments, the system has now expanded for use in safety net clinics and among hospitalists. MidSouth eHealth Alliance is currently extending access to ambulatory providers.

CareSpark serves an area in Appalachia that includes 34 counties spanning northeast Tennessee and southwest Virginia. CareSpark's model is based on significant grassroots support from local healthcare providers, purchasers, technology companies and policymakers at the state and national level. In 2008, CareSpark launched its community health record and is now actively exchanging demographic data and clinical data.

Many geographic areas of the state that lie between the areas served by CareSpark and MidSouth eHealth Alliance are not served by HIOs, however, steps have been taken to initiate a number of local HIOs across the state. These exchanges include Middle Tennessee eHealth Connect based in Nashville, Innovation Valley Health Information Network based in Knoxville, Middle Tennessee Rural Health Information Network based in the upper Cumberland region, and West Tennessee Healthcare based in Jackson.

TennCare's Medicaid Management Information System (MMIS)

TennCare's MMIS covers approximately 1.2 million Tennesseans. The current MMIS implementation, a variant of the interChange system developed by EDS, went live in August 2004. Tennessee's MMIS has been tailored to support Tennessee's managed care model, with heavy emphasis on eligibility and enrollment processing. Unlike most states, Tennessee's MMIS is owned by the State and housed in the State data center.

Shared Health

The State government has contracted with Shared Health, a for-profit venture of BlueCross BlueShield, to make Medicaid data available statewide. The Shared Health platform provides a clinical viewer for data, ePrescribing, a clinical decision application offering problem lists and care opportunities, and a clinical analytics application providing condition tracking and cohort analysis at practice or detail level.

Telemedicine and Telehealth Initiatives

Tennessee has embraced the use of both "telemedicine" (i.e., the provision of clinical services over distance) and "telehealth" (the broader application of technology that includes distance education, consumer outreach, etc.) to improve quality, effectiveness, and availability of care.

In 1998, the University of Tennessee Health Science Center ("UTHSC") established a point-to-point telehealth program that is now available in 85 locations across Tennessee and in Arkansas and Mississippi. The UTHSC system provides an average of 6,930 clinical specialty visits per year.

ePrescribing Initiative

Through the Physician Connectivity Grants, Tennessee's Office of eHealth Initiatives has removed barriers to the adoption of ePrescribing in Tennessee, approving 1,961 healthcare providers and more than 420 treatment sites to join the Tennessee eHealth Network. The Grant program, which required recipients to e-prescribe for two years, has been a critical factor in Tennessee's HIE success.

Furthermore, the Office of eHealth has trained more than 350 grant recipients statewide on the process of ePrescribing, best practice models, workflow adoption, ePrescribing functionality importance in vendor selection, pharmacy workflow process, and use of the Tennessee eHealth Network for HIE. Acknowledging the importance of independent pharmacy adoption especially in the rural communities, the Office of eHealth Initiatives partnered with Tennessee Pharmacist Association in offering concurrent independent pharmacy grants and fostered physician to pharmacy communication and collaboration within the communities.

Tennessee will capitalize on the experiences, successes and many lessons learned for the Physician Connectivity Grant program when expanding to health IT adoption and provider education.

All-Payer Claims Database

The Department of Commerce and Insurance ("DCI") has the authority to collect all-payer claims data from the health insurance companies and regulate the use of this database. DCI already has relationships with the insurers as well as an established regulatory system. Other groups in State government that could use the data – Health Planning, the Department of Health, TennCare, Benefits Administration, and potentially others – may reach data sharing memorandums of understanding with DCI.

3.2 Other Relevant Existing Collaborative Capacities and Opportunities

Broadband

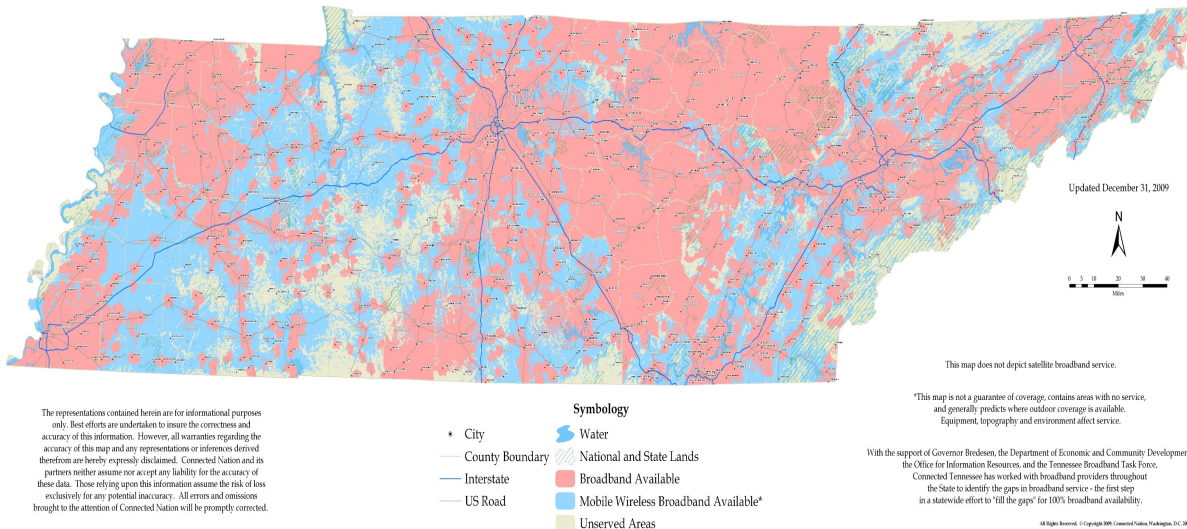
As noted above, Tennessee has developed a secure private network for authorized physicians and providers called the Tennessee eHealth Network. The Network offers high-speed broadband⁹ capabilities, with industry-standard security protocols and service performance level guarantees to practitioners at State negotiated rates. The use of the eHealth Network is voluntary. The eHealth Network is also seen as playing a key role in video-based eHealth due to its potential for supporting high-bandwidth applications and uses.

⁹ See <http://www.connectedtn.org/> for more details, including an interactive broadband mapping tool allowing users to drill down to the street level to view, analyze and validate broadband data.



Broadband Service Inventory for the State of Tennessee

Submit questions or recommended changes to maps@connectedtn.org



Legal and Policy HIE Capacity

CareSpark and MidSouth have made significant strides in adopting privacy and security policies for HIE. In order to expand on the scope of recognized regional policies, the State has convened relevant, knowledgeable stakeholders to develop uniform baseline policies for the exchange of health information on a statewide level. The Privacy and Security Work Group that is now a work group of HIP TN has developed policies aligning the regional privacy and security policies with emerging national standards. The work group is defining policies regarding Patient Notification, Access, Authorization, Authentication, Audit and Breach. The work group will also address the areas of sensitive health information, secondary use, minor consent, permissible use and a statewide data sharing agreement. Once these policies have been appropriately vetted through the statewide collaboration process administered by HIP TN, the HIP TN Board will review and act upon the policies.

Quality Improvement and Quality Measure Reporting

- In 2009, the State produced its first healthcare quality report focusing on hypertension and diabetes. The report aggregated Healthcare Effectiveness Data and Information Set ("HEDIS") measures from four commercial health plan providers, along with Medicare and Medicaid (TennCare) data to provide a nearly complete all-payer data set assessing healthcare quality at the county level. The report for 2010 will be able to show any changes evident over the 12 months.

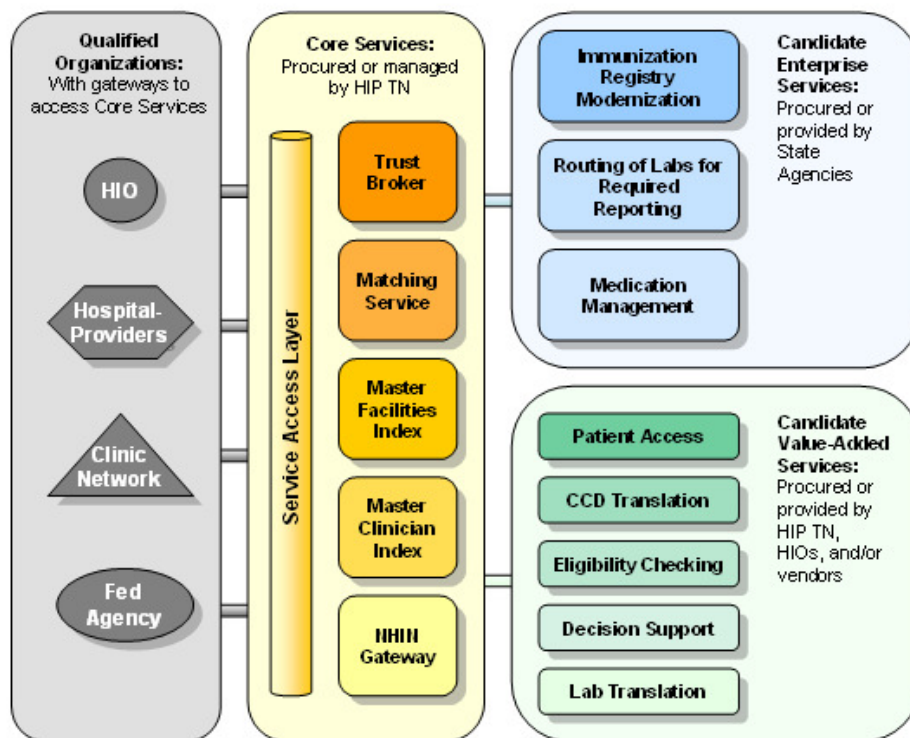
- Medicaid Managed Care Organizations (“MCOs”) in Tennessee are required to report a full HEDIS as a part of the State’s accreditation mandates. The HEDIS requirement is an integral part of the accreditation process of the National Committee for Quality Assurance (“NCQA”). In 2006, Tennessee became the first state in the nation requiring all MCOs to become accredited by NCQA, an independent, nonprofit organization that assesses and scores MCO performance in the areas of quality improvement, utilization management, provider credentialing, and member rights and responsibilities.
- The Consumer Assessment of Healthcare Providers and Systems (“CAHPS”) set of standardized surveys is included in HEDIS to measure members’ satisfaction with their care. An annual report summarizes the results of the each year of HEDIS/CAHPS reporting by the MCOs contracting with the Tennessee Department of Finance and Administration, Bureau of TennCare.
- In West Tennessee, Healthy Memphis Common Table (“HMCT”), the Regional Health Improvement Collaborative for West Tennessee, has been recognized by HHS as a Chartered Value Exchange (“CVE”). As a CVE, HMCT has already organized stakeholders in support of a common quality improvement and consumer engagement agenda in the MidSouth.

4. Technical Infrastructure

4.1 Overall Framework for eHealth in the State of Tennessee

The technical approach for statewide HIE in Tennessee is the development of layers of services and functionality. Connectivity to statewide HIE services is voluntary. Figure 4 summarizes the proposed layers.

Figure 4: Key Elements of Tennessee's eHealth Framework



4.1.1 Distinctions Between Types of Services

In defining Tennessee's technical architecture strategy, it is important to distinguish between Core Services, Enterprise Services, and Value-Added Services. The definitions of these terms for the purposes of this Strategic Plan are as follows.

- *Core Services:* Services to help organizations locate, positively identify, and determine how to exchange information securely across organizational boundaries;

- *Enterprise Services*: Services to help organizations meet the federal criteria and state requirements for the meaningful use of certified EHR technologies; and
- *Value-Added Services*: Services for inclusion within the statewide HIE framework based on the feasibility, cost, and value of the proposed service. It is anticipated that services will evolve and be accessed through HIP TN's provision of Core Services.

4.1.2 Core Services

HIP TN will offer the Core Services, defined generally below and developed more specifically by the Technology Workgroup:

Core Services Offered by HIP TN	
Service Access Layer	<ul style="list-style-type: none">• The Service Access Layer consists of uniform transport and security infrastructure based on web services standards and a Service Oriented Architecture, and is responsible for mediating all access to and from other core services: the various registries, the trust broker and the NHIN gateway.
Trust Broker	<ul style="list-style-type: none">• Index of participating entities including organizational details• Store participating entity rules (based on data sharing agreements) to enable the sharing of clinical records. Information examples include but are not limited to:<ul style="list-style-type: none">○ Roles○ Patient consent• Participating entity provisioning/de-provisioning• Auditing transactions/reporting• Compliance with policies and procedures• Authentication of participating entities (including second factor)• Certificate authority

Core Services Offered by HIP TN

Person/Patient Matching Service

- Match patients on standard query or “find all about patient,” asking other systems to match on name, DOB, zip, etc.
- Provide a centralized engine to determine threshold matching
- Aggregate results
- Enables requesting a list of patient information documents using an index
- Enables requesting one or more of the documents listed from a query be transferred to the requester’s system.

Master Clinician Index

- Index containing all relevant information on all registered clinicians within TN.

Master Facilities Index

- Index of facilities with which the clinician has affiliation/relationship.

NHIN

- Provide for a single statewide implementation of the NHIN connect gateway available as a web service for authorized users and entities
- Service is the required standard for interoperability with federal agencies and the proposed standard for the exchange of clinical information across the NHIN

4.1.3 Enterprise Services

Candidates for Enterprise Services facilitated by the State of Tennessee may include:

Enterprise Services Sponsored by State of Tennessee

Medication Management

- Reconciliation of prescription fill status and/or medication fill history
- Enable display of a single record of both medications ordered and filled

Routing of Laboratory Results for Required Reporting

- Provide a centralized clearinghouse that will route laboratory reports to public health and other agencies as mandated by federal and state laws.

Enterprise Services Sponsored by State of Tennessee

**Immunization
Registry
Modernization**

- Provide data transport and other services to enable interoperability with the Immunization Registry using standard Immunization messages for those who can create/consume them and translation services for those who must use other methods, e.g. CCD or web services

4.1.4 Value-Added Services

In addition to the basic Core and Enterprise Services HIP TN will evaluate and recommend additional services that are consistent with meaningful use or other federal/state requirements, complementary to the Enterprise Services, and aligned with clinical priorities. Shared access to such services will accrue mutual benefit to the stakeholders and contribute to overall sustainability. Candidates for such services may include the following:

- ***Patient Access:*** Meaningful use requires patient access to data electronically, though it may be via a thumb drive or alternative mechanism. Recognizing that while many EHRs have this functionality there are others that do not. The service could provide a mechanism for patients to access their clinical information (e.g., deliver/route to the patient's preferred PHR). Initially patients will have access to Medicaid claims.
- ***Continuity of Care Document Translation:*** This service will offer a centralized clearinghouse for routing and transforming clinical summary documents among providers and patient-designated entities. This service would be analogous to the laboratory-routing clearinghouse, and would enable organizations that may lack standards-compliant EHR systems to also exchange clinical summary data. This service will allow for the clinical summary exchange for care coordination, capability and capacity for the translation of legacy messaging to standardized CCD and/or CCR. At this time it is the preference of the Technology Workgroup to standardize on the CCD (over the CCR); however, a formal evaluation of this will take place prior to establishing this standard.
- ***Eligibility Checking:*** A central access point will enable EHRs and practice management systems to retrieve insurance eligibility information via EDI transactions across various payers in Tennessee. This service would facilitate electronic eligibility checking and the fulfillment of the corresponding meaningful use criteria for the users and vendors of EHR systems, suggesting a revenue model for sustainability.

- ***Decision Support and Results:*** Expanded functionality for the laboratory-routing clearinghouse will include a decision-support component able to automatically determine which test results can and/or must be transmitted electronically to which providers/patients/agencies per Tennessee statutes and regulations.
- ***Lab Translation Service:*** The service will transform laboratory result messages to conform to the format, coding, and transport requirements of the receiving EHR or public health agency; and provide a component to route and transform laboratory orders as well as results.

5. Business and Technical Operations

The State HIE Operational Plan provides operational details for the proposed technical, legal, and financing strategies for HIP TN and State government activities, including:

- Implementation timelines;
- Proposed milestones and deliverables;
- Staffing models;
- Policy and procedure development; and
- Corresponding four-year budgets.

In addition, the Operational Plan outlines a coordinated communication plan to support HIE and health IT adoption and use among providers and consumers. The Communication Plan concentrates its efforts to:

- Increase the adoption and application of health IT in Tennessee;
- Increase consumer awareness of the benefits of HIE and health IT and the issues related to their care and of the privacy and security protections surrounding the use of their health information;
- Educate healthcare providers about their participation in and requirements of the ARRA Medicaid and Medicare incentives program; and
- Keep news media, consumers and other target audiences informed about overall advances and successes in Tennessee.

6. Legal/Policy

Tennessee's strategy in the legal and policy area is to utilize the statewide collaborative process administered by HIP TN to establish a common set of policies to enable inter-organizational and eventually interstate HIE while protecting consumer interests. As statewide policy guidance is developed, the HIE meaningful use criteria will be considered and incorporated.

6.1 Policy Framework

The policy framework and methodology has been established and used in the review of existing Tennessee law. The methodology includes creating a list of issues effecting HIE based on the policy direction of HIP TN, the federal privacy and security framework, federal policy committees and workgroups, the National Governor's Association, state statutes and court decisions, as well as issues emanating from contiguous states.

The Health IT Coordinator will lead the communication among the Tennessee healthcare stakeholders, HIP TN, and other state departments. Input from the various groups will be expected to supplement the list of issues based on their individual participation in both state level and national level discussions on these topics.

Additionally, the framework includes:

- Reviewing issue resolution decisions developed in other states as well as policy issues addressed through HIP TN and the NHIN;
- Discussions with key personnel nationally, within the State and bordering states on their development processes for establishing key issues and decision points; and
- Discussions on their internal processes for resolution as well as the barriers encountered during their individualized processes.

Once this process has been completed, an interim report will be given to the HIP TN board to keep the board apprised of the outcomes and to request guidance for moving forward.

6.2 State and Federal Laws

A comprehensive Review of Tennessee Laws affecting the exchange of health information was undertaken in 2007. The review, while beneficial, is now three years old, therefore new public laws that have been passed by the Tennessee Legislature since that time will need to be reviewed. In addition, laws in existence in 2007 will need to be re-analyzed given the many changes in HIE within the state and nationally. Since 2007, significant federal laws and regulations have

changed and will also need to be analyzed. The review will use the same methodology as stated in the above in the policy framework section.

The State Legislature will be asked to provide additional statutory support as needed.

6.3 Privacy and Security

In early 2009, under the leadership of the Office of eHealth Initiatives, a group of leaders and experts from across the state came together to develop a plan for statewide privacy, security, and legal efforts. The leaders recognized a great deal of synergy that could be leveraged across the state to support statewide HIE.

A statewide workgroup was suggested as a mechanism for soliciting input and making recommendations to HIP TN. This leadership group has evolved into the Privacy and Security Workgroup of HIP TN. The workgroup membership has a diversified professional background as well as representing a broad set of stakeholders across the state. This group, with direction from the HIP TN Board, has constructed an ongoing approach to privacy, security and legal HIE efforts.

The Privacy and Security Workgroup, building on the practices of the existing HIOs, recognizes that statewide policy is an evolutionary process. As appropriate and secure HIE is available to care providers for care coordination, there will need to be revisions to existing policies and new policies written to accommodate changes. The first policy that was documented addressed patient notification and the patient's right to "opt out" of sharing information for treatment purposes. The workgroup is currently drafting policies to address authorization, access, audit, authentication and breach notification. The next policies to be addressed are related to sensitive data, secondary use and minors. After these policies have been drafted, the workgroup has agreed to re-visit and possibly revise the patient notification/opt out policy.

6.3.1 Multi-State Policy

HIP TN in collaboration with the Office of eHealth Initiatives will address privacy and security issues related to HIE within the state as well as with the eight bordering states: Kentucky, Virginia, North Carolina, Georgia, Alabama, Mississippi, Arkansas, and Missouri.

Two of the active exchanges, MidSouth eHealth Alliance and CareSpark, have patients and providers that cross state lines. Strategically, it will be necessary to have more formal conversations with each of these states to identify federal and state laws and regulations and adherence to the privacy principles articulated in the HHS Privacy and Security Framework and any related guidance that is given over time.

6.3.2 Patient Awareness

An underlying principle incorporated into policy development is that the policy must ultimately respect the patient and be communicated in a manner that supports patient understanding. The recommendations must be incorporated into the HIE communication strategy and plan.

6.4 Trust Agreements

The purpose of trust agreements (e.g., data sharing agreements, data use agreements and reciprocal support agreements) is to enable the secure flow of information within a HIO and between HIOs.

Trust agreements in the form of data sharing agreements and data use agreements have been developed by the existing HIOs in Tennessee (CareSpark, MidSouth eHealth Alliance, and Shared Health). These agreements have been shared statewide over the years creating synergy in approach.

In addition to the trust agreements, the HIOs have their own set of policies and procedures which support the agreements in place. The MidSouth eHealth Alliance has an additional data use agreement with Regenstrief Institute to access their Medication Hub to gain access to Surescripts data. CareSpark has been closely involved with the development of the DURSA as part of its involvement with the NHIN.

The statewide strategy is to analyze and rationalize the necessary flow-down provisions to allow CareSpark and the MidSouth eHealth Alliance, as well as any future HIOs within the State, to participate in the NHIN. Further work will be needed with MidSouth eHealth Alliance, the Tennessee eHealth Network and future HIOs to share health data across the NHIN.

6.5 Oversight of Information Exchange

The development of the Operational Plan will include a process to identify policies that govern, provide oversight, and enforce statewide HIE. These policies will outline specific responsibilities and requirements.

7. Financing

7.1 HIE Sustainability

Tennessee views the identification and implementation of a sustainable plan of financing for statewide HIE to be the most challenging element of its strategic plan. Tennessee recognizes that developing financing strategies for HIE requires planners to project the value perceptions of marketplace participants, because today there is limited marketplace demand for HIE products and services. Both non-recurring and recurring revenue sources will need to be drawn on and the financing plan will need to be flexible to accommodate for evolving technology costs and clearer market demand signals.

With this, the strategy of Tennessee in developing a business plan for sustainable financing for statewide HIE entails the following components:

- Construction of a five-year financial model that allows the comparison of sources and uses of financial resources and alternate case scenarios;
- Development of scenarios based on alternative strategies and timelines;
- Estimation of contributions from recurring and non-recurring revenue sources to permit sensitivity analyses based on graduated charges to specified participants in the healthcare economy;
- Analysis of costs of Core Services which may be equitably supported by all users versus Value-Added services that may be charged only to users of the service; and
- Identification of policy and regulatory mechanisms to accelerate demand for and participation in HIE.

State government and HIP TN will collaborate to study and offer options and make policy recommendations to decision-makers. Strategically, Tennessee envisions the evolution of a marketplace where the exchange of clinical data is an essential component of provider workflow and an indispensable tool in achieving and reporting on quality and health outcomes measures. Within the envisioned financing structure, all users of statewide HIE will pay the cost of the ongoing development and maintenance of the technical and policy infrastructure that enables the exchange of clinical data in order to achieve better outcomes and justify corresponding incentive payments.

7.2 Creation of Demand for HIE Products and Services

Tennessee shares the view of ONC that HITECH funding will be instrumental in creating the demand for HIE products and services.

This will in turn create a vibrant marketplace for HIE products and services:

“Medicare and Medicaid meaningful use incentives are anticipated to create demand for products and services that enable HIE among eligible providers... The demand for health information exchange [that results from the application of meaningful use payments] will likely be met by an increased supply of marketed products and services to enable HIE...”¹⁰

This projection of a thriving marketplace once meaningful use incentive payments create the requisite demand suggests that the demand for HIE products and services is not sufficiently mature today to generate a financeable revenue stream.

With this, Tennessee’s strategy for developing a plan for sustainable financing for HIE will take into account the rapid development of the commercial marketplace that is likely to develop over the next five years. It will also recognize that bridge financing mechanisms are likely to be required to support development and implementation of statewide HIE pending the time at which there is sufficient marketplace demand to support a permanent financing mechanism.

¹⁰ Office of the National Coordinator for HIT. “State HIE Cooperative Agreement Funding Opportunity Announcement.” August 2009.

8. Coordination with Other Government Agencies and Funding Sources

The HIE Strategic Plan is aligned with broader health planning principles guiding Tennessee's priorities for action. In turn, the HIE Strategic Plan provides a framework for the coordination of the State's efforts by and with other government agencies. This deliberate effort involves not only leveraging the opportunities identified to advance HIE, but also careful stewardship of investments so that the funds are used wisely.

8.1 Coordination with TennCare

Tennessee's Office of eHealth Initiatives and TennCare, along with the Department of Health, are working together currently on development of the Medicaid health IT strategic vision, goals and objectives, and the design of the Medicaid incentive program, recognizing that the State Medicaid Health IT Plan activities and statewide HIE efforts are interdependent and thus coordination and integration between the areas are critical to maximize their impact and prevent duplication in efforts.

Tennessee's HIE strategy will leverage provider participation in the Medicaid incentive program while the Medicaid health IT strategy will integrate statewide HIE capabilities that enable providers to meaningfully use EHRs and fully realize benefits of healthcare coordination and quality improvement. Key objectives of the Medicaid Health IT strategic planning process include:

- ***Program Administration and Planning*** – TennCare's health IT vision, goals, and objectives and plan will include the criteria and mechanisms for the provider incentive payments as well as strategies to encourage and support health IT and HIE adoption in the broad Medicaid provider population. Through a coordinated planning effort, statewide HIE goals, objectives, and capacities will be actively considered in program planning and integrated in the State Medicaid Health IT Plan.
- ***Meaningful Use*** – Current TennCare public health and clinical quality reporting requirements, such as HEDIS and CAHPS measures, are consistent with meaningful use objectives and anticipated quality reporting requirements under the HITECH Act. To the degree final rules permit, Tennessee will align these measures, and incorporate Tennessee's HIE goals in defining requirements for meaningful use at the state level. Increasing requirements for meaningful use will be timed with the HIE requirements under the federal Medicare meaningful use definition. TennCare and eHealth objectives and initiatives will be coordinated to encourage health IT and HIE adoption and meaningful use in the Medicaid provider population. TennCare will pursue design strategies to make health IT broadly available and affordable.

- ***Medicaid Incentive Program Deployment*** – The mechanism for disbursement of Medicaid incentives will be designed to encourage and support adoption of EHRs among TennCare providers and to coordinate with other state-level initiatives and funding opportunities. The use of qualified intermediaries will be explored as an option for deployment of Medicaid incentives. Qualified intermediaries will coordinate with tnREC activities and can further increase successful adoption of EHRs by providing community-wide technical assistance and facilitating group purchasing.
- ***Medicaid/Medicare Incentive Program Coordination*** – HIE requirements under the federal Medicare meaningful use definition will inform State efforts in advancing HIE. TennCare’s Medicaid meaningful use requirements will be coordinated with federal Medicare meaningful use guidelines to assure consistency in HIE goals. Funding will be coordinated between programs to ensure consistency in application of rules and to maximize impact.

8.2 Coordination with Tennessee’s REC Efforts

In February 2010, HHS awarded a cooperative agreement to QSource to serve as Tennessee’s REC, tnREC. QSource is a healthcare consulting organization located in Memphis that holds the State’s Medicare quality improvement organization contract. Under a contract with CMS, the organization provides healthcare quality improvement collaborative opportunities for the providers, practitioners, and managed care plans that care for approximately 1 million Medicare beneficiaries in Tennessee.

The State of Tennessee and HIP TN are aligning resources with tnREC to promote the adoption of EHRs for providers. The REC will focus on individualized support to two groups of providers, enabling both groups to qualify for entitlement funds under either Medicare or Medicaid incentive programs. Assistance for the two groups of providers will focus on the following:

- Helping providers without an EHR, or those whose current systems fail to meet meaningful use criteria, to select and successfully implement certified EHRs; and
- Among providers who already have a system, providing technical assistance in achieving meaningful use status.

tnREC will target its most intensive technical assistance on clinicians (physicians, physician assistants, and nurse practitioners) furnishing primary care services, with a particular emphasis on individual and small group practices (those with fewer than 10 clinicians with prescriptive privileges). Clinicians in such practices deliver the majority of primary care services in Tennessee, but have the lowest rates of adoption of EHR systems, and the least access to resources to help them implement, use and maintain such systems. The REC will also focus intensive technical assistance on clinicians providing primary care in public and critical

access hospitals, community health centers, and other settings that serve the uninsured and TennCare population.

tnREC serves as an integral component of the strategy to help providers achieve HIE. In June 2009, a wide group of stakeholders met to consider, among other initiatives, how Tennessee would approach the establishment of RECs necessary for supporting primary care providers in achieving meaningful use of EHRs and enabling statewide HIE. The clear consensus of that discussion was that the statewide efforts in Tennessee would benefit from having one coordinating entity pulling together all necessary resources.

Accordingly, Tennessee is aligning efforts with QSource, the state's QIO, which will serve as the main coordinating entity. The State supported QSource's independent application for REC funds, and has recruited QSource staff to participate as co-chairs, staff advisors and/or members of HIP TN, including participation on its Board. This participation will ensure that Tennessee's HIE efforts are coordinated in such a fashion as to make grant availability and health IT adoption support part of an integrated approach, and that the success of statewide efforts is measured in a consistent fashion.

tnREC will also track ongoing information related to EHR adoption rates and meaningful use achievement. QSource will make this information available to both the Office of eHealth Initiatives and TennCare to supplement the capture of relevant adoption metrics statewide. Furthermore, tnREC tracking and documentation of meaningful use achievement within targeted practices will afford a streamlined opportunity to disseminate TennCare grant funds under a REC sponsored meaningful use certification model.

8.3 Training and Workforce Development

Just as HIP TN and the State are working with tnREC to promote health IT adoption, Tennessee also coordinates effort to advance training and workforce development, as described below.

8.3.1 Integrating Best Practices in Provider's Delivery of Care

Efforts will be carried out in partnership with Tennessee's REC envisioned under the HITECH Act. Specifically:

- As Tennessee's REC, tnREC has committed to enter into an agreement with HIP TN to coordinate the REC functions;
- Utilizing expertise and lessons learned from 350 implementations through the federally funded DOQ-IT and state funded eHealth grants, QSource will offer training to support expanded EHR rollout to physician offices; and
- Through the higher education system and based on lessons learned, the State will develop and implement a strategy of providing training support for the

entire healthcare spectrum, including nursing homes, hospitals and home healthcare agencies.

8.3.2 Workforce Training

- In a program similar to the partnership supporting best practices training, the State and HIP TN will coordinate efforts with tnREC around needed workforce training. Specifically:
- QSource's Educational Technology Advisory Committee will provide advice and guidance on information technology curriculum, workforce development strategies, issues, directions, and priorities. The committee includes representatives of each of the academic institutions overseen by the Tennessee Board of Regents, the University of Tennessee UT system, private institutions, the Tennessee Health Information Management Association, and the Tennessee Medical Group Management Association. The committee will perform curriculum development oversight and carry out other activities as required to meet future healthcare workforce health IT training needs.
- QSource will also design and oversee the development and support of operational extenders for local, priority provider groups through contracted partners with requisite expertise, while integrating the new workforce that evolves from workforce development activities. Operational extenders will enable providers to have ready access to local information technology extension agents.
- QSource will continue to explore opportunities to expand the health IT educational curriculum course currently being tested at three technology centers and work to identify specific credentialing opportunities within these areas. In addition to using Technology Centers, QSource will work with community colleges and universities on this same initiative to identify other workforce initiatives and internship opportunities at rural provider offices.
- Appropriate development and adoption of baseline curricula for existing health professionals on privacy, security and other unique issues in health IT data exchange and use will occur. This will include development and adoption of certification criteria for technical support of health IT.

8.4 Broadband

Tennessee's will continue to seek opportunities to advance broadband availability across Tennessee. This strategy will involve deployment of broadband to achieve:

- Bringing wireless broadband technologies to rural residents and small businesses;

- Providing connections for medical and healthcare facilities that do not otherwise have broadband access; and
- Providing affordable broadband services to rural residents enabling future home health initiatives.

8.5 Coordination with Other State and Federal Programs

In the winter of 2008, Tennessee's Office of eHealth Initiatives and the Health Planning Division built a core planning group from members of the existing Health Quality Coordinating Forum and others recruited by the Health Quality Initiative participants. The group consists of staff from the Department of Health representing:

- Public health clinics, registries, biosurveillance and communicable disease reporting from information on the network as well as other CDC and HRSA programs;
- The Department of Mental Health and Developmental Disabilities representing their regional mental health institutes, community mental health and substance abuse providers and hospitals, as well as staff involved with the effort to collect National Outcome Measures for Tennessee's mental health block grant (SAMHSA DIG);
- The Department of Corrections, representing their medical services both within the prisons and transitioning back to the community; and
- The Benefits Administration Division, representing the CoverKids (Tennessee's CHIP) program.

The group identified federally and state funded programs potentially involved with advancing health IT technology. These programs will be assessed and mapped to the priority needs for HIE.

Through an interdisciplinary planning group collaborating on improving the health of Tennesseans, the state identified potential sources of federal and state funding related to advancing health IT. Examples of projects to be coordinated into the overall effort include:

- Broadband initiatives, with an initial focus on coordination with the taskforce responsible for submitting a statewide grant submission under ARRA for expansion of broadband services unto rural and underserved areas of Tennessee. Much of the focus of this effort has been on the use of broadband for telemedicine, home health and extending the actual reach and bandwidth of internet access into previously unreachable areas through wireless.

- A provision for identifying reportable lab orders and results and creating messages to public health to fulfill these requirements as interoperability between medical provider and medical laboratory systems is deployed. The CDC's Epidemiology and Laboratory Capacity Cooperative Agreement Program funds the corresponding activities that receive these messages and process them into the State's Communicable Disease Surveillance systems.
- Enabling the expansion of HIE between the State Departments of Corrections, Mental Health and Developmental Disabilities, TennCare, Children's Services, and Health to improve coordination of care for constituents.
- Displaying previously unavailable Medicare records as a claims-based clinical record to be made available to appropriately authorized users, as has been discussed with CMS. Similar projects are being considered to make a claims-based TennCare record more widely available through the provision of a web-service based CCD.
- Use of the Tennessee Immunization Registry by the State HIE as a central query repository for immunization information and, until a broader statewide approach to patient matching is in place, for related patient demographic information. This capability will include a query/response function to supply immunization history information to providers, vaccination event records from providers to the Registry, and population based immunization summary data to identify target population coverage levels.
- Efforts to make Public Health investigations more timely and effective with access to EHR information through the State HIE. Infrastructure and systems will identify, access and incorporate medical record data in surveillance systems supported by various federal grants.
- Support of several federally funded programs providing for treatment of patients in target categorical disease populations, e.g., HIV/AIDS, End-Stage Renal Disease, and Hemophilia, by an EHR system for statewide Public Health Medical Programs which will be interoperable with other provider EHR systems. These initiatives will improve the coordination of care between providers and reduce the administrative cost to all providers.
- Expanding the role of the recently created All Payer Claims Database initiative, in particular in setting specific measurable indices to determine the clinical and cost effectiveness of expanded and new HIE and HIO initiatives.
- Enabling the Healthcare Resource Tracking System, a federally funded Emergency Preparedness program, to make use of HIE interoperability to reach a greater number of organizations in Tennessee's healthcare community with bi-directional exchanges of information about emergency events, related healthcare resource status and the status of emergency resources.

- Focusing on initiatives facilitated by the federally funded National eHealth Collaborative (“NeHC”), established through a grant from ONC to build on the accomplishments of the American Health Information Community, a federal advisory committee to the U.S. Department of Health and Human Services. NeHC’s mission is to help enable and accelerate the progress offered by the significant investment in health IT included in the American Recovery and Reinvestment Act of 2009 by assessing and addressing barriers to the nation’s interoperability progress and by connecting and educating the health community stakeholders that will be critical to the success of a fully functional national health information network. The State views that through this collaborative focus, the State’s public health information system may evolve to one that is more effective by using increased opportunities for the use of standards for interoperability.
- Enabling the electronic exchange of health information between the Department of Veterans Affairs and private sector providers treating veterans. As part of its involvement in the NHIN, CareSpark has ongoing discussions with the Department of Veterans Affairs. CareSpark currently enables exchange of both the Tennessee and Virginia immunization registries and is in discussions with several other states to enable exchange of this data. CareSpark also received an award from the Social Security Administration for the collection of records for the purpose of making disability determinations.

9. Evaluation Process to Assure Continuous Improvement and Accountability

Statewide health IT and HIE evaluation efforts are designed to support the vision, goals, objectives and strategies in the State’s strategic plan. The State of Tennessee will monitor and report its progress toward achieving information exchange requirements for adoption, effective use and interoperability, and in satisfying state and federal definitions of meaningful use.

9.1 Principles

The Evaluation/Assessment Workgroup principles include:

- Prioritizing approaches to emphasize tracking and maintaining project information for project self-evaluation and to inform a national program-level evaluation;
- Coordinating activities at the state level to leverage the reporting activities of other government and private-sector efforts;
- Developing an incremental approach to reporting on the priority area across the domains of HIE in phases of available organizational resources, services, and functionalities; coordinating and translating data obtained from ongoing initiatives;
- Striving toward uniform reporting with other states that will inform the national debate; and
- Encouraging transparency through public reporting to drive quality improvement and better patient care.

9.2 Grounded Research Approach

The State’s approach to evaluation is adapted in part from its experience in the Memphis AHRQ-funded HIE. The original 2004 AHRQ technical proposal emphasized identifying, “metrics which are consistent with the desired outcomes, practically measurable, and capable of supporting change” in an effort to accelerate statewide adoption and national collaboration. The State placed great emphasis on creating metrics that could be collected and analyzed in the most efficient manner possible. An early focus, based on a critical need to establish trust relationships with regional hospital administrations and clinicians, was on quantitative and qualitative factors that could demonstrate a clinical and financial impact on patient care. Even with a mature infrastructure, MidSouth took two years to develop inexpensive and stable methods to measure connectivity, data element availability, system use, and anecdotal system impact. By the third year, MidSouth was able to demonstrate a reduction in test-ordering behavior and could begin to develop insights into how HIE influenced workflow, adoption, and the care of individuals with specific disorders.

Tennessee's strategy is to report on the infrastructure necessary to advance meaningful use of health IT, emphasizing the unique foundational aspects of this effort. To a lesser degree, the strategy will build on evolving HIE and health IT adoption experience to carry the narrative from the infrastructure to the impact on the lives of individuals and populations.

By identifying the activities by which success can be measured, the State, in collaboration with the Evaluation/Assessment Workgroup can begin to determine whether the statewide HIE efforts – including those managed by HIP TN, TennCare and the eHealth Office – are enabling the achievement of the articulated statewide goals.

9.3 Incremental Multi-Level Process

The State recognizes that the organization and development of statewide HIE services is an incremental process involving multiple stakeholders. There will be continuous monitoring and remediation, as progress is made toward adoption, effective use and interoperability to satisfy state and federal levels of meaningful use definitions.

Ongoing reporting and evaluation is a critical component of the Tennessee's strategy with respect to statewide HIE. Initially, evaluation efforts will establish and implement mechanisms for reliable reporting of metrics to demonstrate achievement of strategic HIE deployment and meaningful use objectives. Over time, Tennessee will evolve its evaluation efforts to focus on outcomes-based evaluation.

Strategically, evaluation will occur at multiple levels. At the statewide level, ongoing evaluation activities will assess and measure the utilization of HIE technology to meet population health objectives. At the regional and institutional levels, measurement and reporting will initially be focused on quality indices.

9.4 Collaboration

The State will draw upon experts within state government as well as recognized private sector experts to identify, guide and support implementation of comprehensive evaluation activities. It is anticipated that the evaluation/assessment activities will be carried out by a neutral third party contracted by the State.

9.5 Integration with Reporting Requirements

A key focus of the evaluation effort will be to identify and implement modalities so reporting and evaluation mechanisms may evolve from measuring the effective deployment of HIE technologies to measuring and evaluating the outcomes of HIE technology. Tennessee will evaluate developing standardized surveys and outcomes measurement tools, focusing on research design methods for evaluation, statistical consulting, data analysis and report formats.

In addition to assessment activities that are already underway, reporting requirements exist under federal contracts, State requirements and standard business practices. The State will integrate and coordinate the measurement and reporting requirements under these various programs so as to provide the most comprehensive and accurate reporting environment possible as a foundation for evaluation efforts.

Appendix A: Glossary of Terms

American Recovery and Reinvestment Act of 2009 (ARRA): A \$787.2 billion stimulus measure, signed by President Obama on February 17, 2009, that provides aid to states and cities, funding for transportation and infrastructure projects, expansion of the Medicaid program to cover more unemployed workers, health IT funding, and personal and business tax breaks, among other provisions designed to “stimulate” the economy.

Centers for Medicare and Medicaid Services (CMS): A federal agency within the United States Department of Health and Human Services that administers the Medicare program and works in partnership with state governments to administer Medicaid, the State Children’s Health Insurance Program (SCHIP), and health insurance portability standards.

Certification Commission for Healthcare IT (CCHIT): A recognized certification body (RCB) for electronic health records and their networks. It is an independent, voluntary, private-sector initiative, established by the American Health Information Management Association (AHIMA), the Healthcare Information and Management Systems Society (HIMSS), and The National Alliance for Health Information Technology.

Consent: The Health Insurance Portability and Accountability Act Privacy Rule sets out two types of permission that are used to permit a covered entity to use or disclose protected health information: consent and authorization. A written “authorization” is required in certain circumstances, including for most disclosures of psychotherapy notes; to disclose health information for “marketing”; and for uses and disclosures that are not otherwise required or permitted by the privacy regulation. The Privacy Rule, however, generally permits a covered entity to use and disclose protected health information without an individual’s authorization for treatment, payment and healthcare operations, and certain other specified purposes.

The Privacy Rule includes detailed requirements for the authorization form that must be used to obtain authorization when required. All authorization forms must contain certain core elements, including:

- A specific description of the information to be used or disclosed and the purposes of the use or disclosure;
- The identity of the person or class of persons authorized to make the requested use or disclosure;
- The identity of the person or class of persons to whom the covered entity may make the requested use or disclosure;
- A statement of the person’s right to revoke the authorization; and
- The signature and date of the authorization.

A general “consent” is permitted but not required for use or disclosure of information for treatment, payment, and healthcare operations. Covered entities that choose to obtain a patient’s

consent for use or disclosure of information for treatment, payment, and healthcare operations have complete discretion in designing their consent form and process. The regulation does not define the term “consent” and does not specify any requirements for the content of consent forms.

Electronic Health Record (EHR): As defined in the ARRA, an Electronic Health Record (EHR) means an electronic record of health-related information on an individual that includes patient demographic and clinical health information, such as medical histories and problem lists; and has the capacity to provide clinical decision support; to support physician order entry; to capture and query information relevant to healthcare quality; and to exchange electronic health information with, and integrate such information from other sources.

Electronic Prescribing (ePrescribing): A type of computer technology whereby physicians use handheld or personal computer devices to review drug and formulary coverage and to transmit prescriptions to a printer or to a local pharmacy. ePrescribing software can be integrated into existing clinical information systems to allow physician access to patient-specific information to screen for drug interactions and allergies.

Federal Communications Commission (FCC): The United States government agency charged with regulating interstate and international communications by radio, television, wire, satellite and cable.

Federally-Qualified Health Centers (FQHCs): “Safety net” providers such as community health centers, public housing centers, outpatient health programs funded by the Indian Health Service, and programs serving migrants and the homeless. FQHCs provide their services to all persons regardless of ability to pay, and charge for services on a community board approved sliding-fee scale that is based on patients’ family income and size. FQHCs are funded by the federal government under Section 330 of the Public Health Service Act.

Health Information Exchange (HIE): As defined by the Office of the National Coordinator and the National Alliance for Health Information Technology (NAHIT), Health Information Exchange means the electronic movement of health-related information among organizations according to nationally recognized standards.

Health Information Technology (Health IT): As defined in the ARRA, Health Information Technology means hardware, software, integrated technologies or related licenses, intellectual property, upgrades, or packaged solutions sold as services that are designed for or support the use by healthcare entities or patients for the electronic creation, maintenance, access, or exchange of health information.

Health Information for Economic and Clinical Health (HITECH) Act: Collectively refers to the health information technology provisions included at Title XIII of Division A and Title IV of Division B of the ARRA.

Health Information Technology Research Center (HITRC): As set out in the ARRA, the Health Information Technology Research Center will be created by the Office of the National Coordinator to provide technical assistance and develop or recognize best practices to support and accelerate efforts by healthcare providers to adopt, implement, and effectively utilize health

information technology that allows for the electronic exchange of information.

Health Insurance Portability and Accountability Act (HIPAA): Enacted by Congress in 1996, Title I of HIPAA protects health insurance coverage for workers and their families when they change or lose their jobs. Title II of HIPAA, known as the Administrative Simplification (AS) provisions, requires the establishment of national standards for electronic healthcare transactions and national identifiers for providers, health insurance plans, and employers. The Administrative Simplification provisions also address the security and privacy of health data. The standards are meant to improve the efficiency and effectiveness of the nation's healthcare system by encouraging the widespread use of electronic data interchange in the U.S. healthcare system.

Health Information Partnership for Tennessee (HIP TN): A not-for-profit public benefit corporation that will act as a public-private partnership to convene the statewide collaboration process and coordinate and empower the sharing of appropriate health information thereby improving quality, coordination of care, cost efficiency and public health.

Health Information Organization: An organization that oversees and governs the exchange of health-related information among organizations according to nationally recognized standards.

Healthcare Information Technology Standards Panel (HITSP): A multi-stakeholder coordinating body designed to provide the process within which stakeholders identify, select, and harmonize standards for communicating and encouraging broad deployment and exchange of healthcare information throughout the healthcare spectrum. The Panel's processes are business process and use-case driven, with decision making based on the needs of all NHIN stakeholders. The Panel's activities are led by the American National Standards Institute (ANSI), a not-for-profit organization that has been coordinating the U.S. voluntary standardization system since 1918.

Interface: A means of interaction between two devices or systems that handle data.

Interoperability: Interoperability means the ability of health information systems to work together within and across organizational boundaries in order to advance the effective delivery of healthcare for individuals and communities.

Meaningful EHR User: As set out in the ARRA, a meaningful EHR user meets the following requirements: (i) use of a certified EHR technology in a meaningful manner, which includes the use of electronic prescribing; (ii) use of a certified EHR technology that is connected in a manner that provides for the electronic exchange of health information to improve the quality of healthcare; and (iii) use of a certified EHR technology to submit information on clinical quality and other measures as selected by the Secretary of HHS.

Medicare Advantage Plans: Health plans offered by private companies that contract with Medicare to provide beneficiaries with Medicare Part A and Part B benefits. Medicare Advantage Plans are HMOs, PPOs, or Private Fee-for-Service Plans.

Medical Home: Also known as **Patient-Centered Medical Home (PCMH)**, defined as "an approach to providing comprehensive primary care... that facilitates partnerships between

individual patients, and their personal Providers, and when appropriate, the patient's family". The provision of medical homes may allow better access to health care, increase satisfaction with care, and improve health.

Medical Trading Area (MTA): The natural market within which most referrals, hospitalizations, and other flows of both patients and patient information typically occur. Another term for this is a medical referral area.

Nationwide Health Information Network (NHIN): A national effort to establish a network to improve the quality and safety of care, reduce errors, increase the speed and accuracy of treatment, improve efficiency, and reduce healthcare costs.

National Institute of Standards and Technology (NIST): The non-regulatory federal agency within the U.S. Department of Commerce whose mission is to promote U.S. innovation and industrial competitiveness by advancing measurement science, standards, and technology. NIST oversees the NIST Laboratories, the Baldrige National Quality Program, the Hollings Manufacturing Extension Partnership, and the Technology Innovation Program.

NetTN: The secure, statewide broadband infrastructure developed by the State.

Notification: While the term notification is not directly contemplated in Health Insurance Portability and Accountability Act, the concept of providing notice of privacy practices is. The Privacy Rule requires a covered entity to provide individuals with a written notice describing the entity's privacy practices. Health plans are required to give notice at enrollment and to notify individuals every three years that the privacy practices notice is available. Providers that have a direct treatment relationship with an individual are only required to give notice at the date of the first service delivery; and except in emergency circumstances, must make a good faith effort to obtain a written acknowledgment from the individual of receipt of the notice. Providers must also have notice posted on the premises. Both plans and providers have special notice requirements if their privacy practices change. Clearinghouses acting as business associates of another covered entity are not required to give notice to patients. The notice must include:

- A description of an individual's rights with respect to protected health information and how the individual may exercise those rights;
- The legal duties of the covered entity;
- A description of the types of uses and disclosures of information that are permitted, including those that are permitted or required without the individual's written authorization;
- How an individual can file complaints with the covered entity and the Secretary of HHS;
- How the covered entity will provide the individual with a revised notice if the notice is changed;
- A contact person for additional information; and

- The date on which the notice is in effect.

Office of the National Coordinator (ONC): Serves as principal advisor to the Secretary of HHS on the development, application, and use of health information technology; coordinates HHS's health information technology policies and programs internally and with other relevant executive branch agencies; develops, maintains, and directs the implementation of HHS' strategic plan to guide the nationwide implementation of interoperable health information technology in both the public and private healthcare sectors, to the extent permitted by law; and provides comments and advice at the request of OMB regarding specific federal health information technology programs. ONC was established within the Office of the Secretary of HHS in 2004 by Executive Order 13335.

Privacy: In December 2008, the Office of the National Coordinator for Health IT released its "Nationwide Privacy and Security Framework For Electronic Exchange of Individually Identifiable Health Information," (Framework) in which it defined privacy as, "An individual's interest in protecting his or her individually identifiable health information and the corresponding obligation of those persons and entities that participate in a network for the purposes of electronic exchange of such information, to respect those interests through fair information practices." This language contrasts with the definition of privacy included in the National Committee on Vital and Health Statistics' (NCVHS) June 2006 report, entitled, "Privacy and Confidentiality in the Nationwide Health Information Network." In its report, NCVHS recommended the following definition for "privacy": "Health information 'privacy' is an individual's right to control the acquisition, uses, or disclosures of his or her identifiable health data."

QSource: A leading not-for-profit quality improvement organization headquartered in Nashville, Tennessee, and the State's Quality Improvement Organization.

Regional Extension Center (REC): As set out in the ARRA, Regional Extension Centers will be established and may qualify for funding under ARRA to provide technical assistance and disseminate best practices and other information learned from the Health Information Technology Research Center to aid healthcare providers with the adoption of health information technology.

Regional Health Information Organization (RHIO): A health information organization that brings together healthcare stakeholders within a defined geographic area and governs health information exchange among them for the purpose of improving health and care in that community.

State-Designated Entities (SDEs): As defined in the ARRA, State-Designated Entities (SDEs) may be designated by a state as eligible to receive grants under Section 3013 of the ARRA. To qualify as an SDE, an entity must be a not-for-profit entity with broad stakeholder representation on its governing board; demonstrate that one of its principal goals is to use information technology to improve healthcare quality and efficiency through the authorized and secure electronic exchange and use of health information; adopt nondiscrimination and conflict of interest policies that demonstrate a commitment to open, fair, and nondiscriminatory participation by stakeholders; and conform to other requirements as specified by HHS.

Statewide Collaboration Process: The multi-stakeholder deliberative process convened by HIP TN to develop and adopt technical, business and legal rules that will govern HIE in Tennessee.

Statewide Policy Guidance: The technical, business and legal rules that govern HIE in Tennessee as developed through the Statewide Collaboration Process, adopted by the board of HIP TN and approved pursuant to the contractual relationship between HIP TN and the State.

Security: The Health Insurance Portability and Accountability Act Security rule defines “Security or Security measures” as “encompass[ing] all of the administrative, physical, and technical safeguards in an information system.”

TennCare: The Bureau of TennCare, Tennessee’s state Medicaid agency.

U.S. Department of Health and Human Services (HHS): The federal government agency responsible for protecting the health of all Americans and providing essential human services. HHS, through CMS, administers the Medicare (health insurance for elderly and disabled Americans) and Medicaid (health insurance for low-income people) programs, among others.

Appendix B: HIP TN Board of Directors

<i>Voting Director Seat</i>	<i>Appointee</i>
<i>Patient</i> There shall be at least one representative from among the population served by healthcare providers in the State of Tennessee.	Patrick Willard , Associate State Director, Advocacy, AARP of Tennessee
<i>Broad Representation of Health Information Exchange</i> There shall be at least one representative from each of the following HIOs: CareSpark, Inc. and Mid-South eHealth Alliance. There shall also be representation from groups participating in HIE across the state.	Robert S. Gordon , Board Member, Mid-South eHealth Alliance E. Douglas Varney , Chairman of the Board, CareSpark, Inc. Clifton Meador , Executive Director, Vanderbilt Meharry Alliance
<i>Health Insurers</i> There shall be at least two representatives from those entities that contract to provide health insurance coverage to citizens of the State of Tennessee, such as insurance companies, health maintenance organizations and non-profit hospital and medical service corporations.	Robert H. McLaughlin, MD , Senior Medical Director, CIGNA Healthcare Robert J. Mandel, MD , Senior Vice President of Health Care Services, Blue Cross, Blue Shield of Tennessee
<i>Self Insured Employer</i> There shall be at least one representative from among those businesses in the State of Tennessee offering health insurance to its employees through a self-funded health benefit plan	David H. Sensibaugh , Director of Integrated Health, Eastman Chemical Company
<i>Hospital Industry</i> There shall be at least one representative from among hospitals providing services in the State of Tennessee.	Reginald W. Coopwood, MD, FACS , Chief Executive Officer, Regional Medical Center, Memphis
<i>Physicians/Providers</i> There shall be at least one representative from among the physicians providing services in the State of Tennessee. The Board has extended this representation from other clinicians including nurses, the Regional Extension Centers, and primary care providers especially those that focus on the vulnerable and underserved populations.	BW Ruffner, MD , President, Tennessee Medical Association Dawn Fitzgerald , Chief Executive Officer, QSource Diane Pace , Family Nurse Practitioner, University of Tennessee Health Science Center College of Nursing Kathy Wood-Dobbins , Chief Executive Officer, Tennessee Primary Care Association
<i>Pharmacies</i> There shall be at least one representative from the pharmacy industry serving Tennesseans.	Richard H. Sain, Pharm. D. , President, Reeves-Sain Drugstore